

SYSTEM:OS - DIALOG OneSearch

File 652:US Patents Fulltext 1971-1979

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\*File 652: Reassignment data current through 12/06/1999 recordings.  
Due to recent processing problems, the SORT command is not working.

File 653:US Pat.Fulltext 1980-1989

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\*File 653: Reassignment data current through 12/06/1999 recordings.  
Due to recent processing problems, the SORT command is not working.

File 654:US Pat.Full. 1990-2000/Jul 04

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\*File 654: Reassignment data current through 12/06/1999 recordings.  
Due to recent processing problems, the SORT command is not working.

Set Items Description

?ds

Set	Items	Description
S1	169	(SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PYLORIS OR PYLOR)/TI
S2	110957	ATTENUAT? OR MUTANT? OR AVIRULENT? OR AROA OR GUAA OR GUA - OR RECA
S3	57	S1 AND S2
S4	23	S3 AND (HELICOBACTER? OR PYLROI OR PYLOR OR PYLORIDIS OR PYLORIS OR PYLORI)
S5	15	S4 AND (SALMONELLA? OR TYPHI OR TYPHIMURIUM?)
?s s5 and (therapeu? or therapy? or prevent? or vaccin? or immuniz?)		
	15	S5
	84863	THERAPEU?
	53507	THERAPY?
	1317854	PREVENT?
	13409	VACCIN?
	14540	IMMUNIZ?
S6	15	S5 AND (THERAPEU? OR THERAPY? OR PREVENT? OR VACCIN? OR IMMUNIZ?)

?t s6/kwic/all

Bf  
7/00  
100

W097/1182

METHOD FOR INTRODUCING AND EXPRESSING GENES IN ANIMAL CELLS AND LIVE  
INVASIVE BACTERIAL VECTORS FOR USE IN THE SAME

PATENT NO.: 5,877,159  
ISSUED: March 02, 1999 (19990302)  
INVENTOR(s): Powell, Robert J., Baltimore, MD (Maryland), US (United States  
of America)  
Lewis, George K., Baltimore, MD (Maryland), US (United States  
of America)  
Hone, David M., Ellicott City, MD (Maryland), US (United  
States of America)  
ASSIGNEE(s): University of Maryland at Baltimore, (A U.S. Company or  
Corporation), Baltimore, MD (Maryland), US (United States of  
America)  
[Assignee Code(s): 52744]  
APPL. NO.: 8-433,790  
FILED: May 03, 1995 (19950503)

The invention described herein was supported by funding from the National  
Institutes of Health (NIH 5-R01-AI32879). The Government has certain  
rights.

The development of this invention was supported by the University of  
Maryland, Baltimore, Md.

FULL TEXT: 1513 lines

...which can be employed in the present invention include *H. mustelae* (ATCC  
No. 43772). Attenuated **Helicobacter** strains are preferably used in the  
present invention, and can be constructed by introducing one...include *S.*  
*typhi* *aroAaroD* (Hone et al, Vacc., 9:810-816 (1991)) and *S. typhimurium*  
**aroA** mutant (Mastroeni et al, Micro. Pathol., 13:477-491 (1992)).  
Alternatively, new attenuated *Salmonella* strains...

**e: CLONING, SEQUENCING, EXPRESSION, PURIFICATION AND PRELIMINARY  
CHARACTERIZATION OF A TYPE-II DEHYDROQUINASE FROM HELICOBACTER-PYLORI**

Author(s): BOTTOMLEY JR; CLAYTON CL; CHALK PA; KLEANTHOUS C

Corporate Source: UNIV E ANGLIA, SCH BIOL SCI/NORWICH NR4

7TJ/NORFOLK/ENGLAND/; UNIV E ANGLIA, SCH BIOL SCI/NORWICH NR4

7TJ/NORFOLK/ENGLAND/; GLAXO WELLCOME RES & DEV LTD, MED RES

CTR/STEVENAGE SG1 2NY/HERTS/ENGLAND/

Journal: BIOCHEMICAL JOURNAL, 1996, V319, OCT (OCT 15), P559-565

ISSN: 0264-6021

Language: ENGLISH Document Type: ARTICLE

Geographic Location: ENGLAND

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY

Abstract: A heat-stable dehydroquinase was purified to near homogeneity from a plate-grown suspension of the Gram-negative stomach pathogen *Helicobacter pylori*, and shown from both its subunit and native molecular masses to be a member of the type II family of dehydroquinases. This was confirmed by N-terminal amino acid sequence data. The gene encoding this activity was isolated following initial identification, by random sequencing of the *H. pylori* genome, of a 96 bp fragment, the translated sequence of which showed strong identity to a C-terminal region of other type II enzymes. Southern blot analysis of a cosmid library identified several potential clones, one of which complemented an *Escherichia coli* *aroD* point mutant strain deficient in host dehydroquinase. The gene encoding the *H. pylori* type II dehydroquinase (designated *aroQ*) was sequenced. The translated sequence was identical to the N-terminal sequence obtained directly from the purified protein, and showed strong identity to other members of the type II family of dehydroquinases. The enzyme was readily expressed in *E. coli* from a plasmid construct from which several milligrams of protein could be isolated, and the molecular mass of the protein was confirmed by electrospray MS. The *aroQ* gene in *H. pylori* may function in the central biosynthetic shikimate pathway of this bacterium, thus opening the way for the construction of attenuated strains as potential vaccines as well as offering a new target for selective enzyme inhibition.

Identifiers--KeyWords Plus: AMINO-ACID BIOSYNTH

**OPTIMIZED BLAM-TRANSPOSON SHUTTLE MUTAGENESIS OF HELICOBACTER PYLORI  
ALLOWS THE IDENTIFICATION OF NOVEL GENETIC-LOCI INVOLVED IN BACTERIAL  
VIRULENCE**

Author(s): ODENBREIT S; TILL M; HAAS R

Corporate Source: MAX PLANCK INST BIOL, INFEKT BIOL ABT, SPEMANNSTR34/D-72076  
TUBINGEN//GERMANY//; MAX PLANCK INST BIOL, INFEKT BIOL ABT/D-72076  
TUBINGEN//GERMANY/

Journal: MOLECULAR MICROBIOLOGY, 1996, V20, N2 (APR), P361-373

ISSN: 0950-382X

Language: ENGLISH Document Type: ARTICLE

Geographic Location: GERMANY

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; MICROBIOLOGY

**Abstract:** *Helicobacter pylori* is an important etiologic agent of gastroduodenal disease in humans. In this report, we describe a general genetic approach for the identification of genes encoding exported proteins in *H. pylori*. The novel TnMax9 mini-blaM transposon was used for insertion mutagenesis of a *H. pylori* gene library established in *Escherichia coli*. A total of 192 *E. coli* clones expressing active p-lactamase fusion proteins (BlaM(+)) were obtained, indicating that the corresponding target plasmids carry *H. pylori* genes encoding putative extracytoplasmic proteins. Natural transformation of *H. pylori* P1 or P12 using the 192 mutant plasmids resulted in 135 distinct *H. pylori* mutant strains (70%). Screening of the *H. pylori* collection of mutant strains allowed the identification of mutant strains impaired in motility, in natural transformation competence and in adherence to gastric epithelial cell lines. Motility mutants could be grouped into distinct classes: (i) mutant strains lacking the major flagellin subunit FlaA and intact flagella (class I); (ii) mutant strains with apparently normal flagella, but reduced motility (class II), and (iii) mutant strains with obviously normal flagella, but completely abolished motility (class III). Two independent mutations that exhibited defects in natural competence for genetic transformation mapped to different genetic loci. In addition, two independent mutant strains were isolated by their failure to bind to the human gastric carcinoma cell line Katolll. Both mutant strains carried a transposon in the same gene, 0.8 kb apart, and showed decreased autoagglutination when compared to the wild-type strain.

Identifiers--KeyWords Plus: HUMAN GASTRIC EPITHELIUM; DUOD

08/284,233  
updated  
188

SYSTEM:OS - DIALOG OneSearch  
File 654:US Pat.Full. 1990-2000/Jul 04  
(c) format only 2000 The Dialog Corp.  
\*File 654: Reassignment data current through 12/06/1999 recordings.  
Due to recent processing problems, the SORT command is not working.  
File 349:PCT Fulltext 1983-2000/UB=, UT=20000525  
(c) 2000 WIPO/MicroPatent  
File 348:European Patents 1978-2000/Jun W03  
(c) 2000 European Patent Office  
\*File 348: \*\* NEW FEATURE \*\* English language translations of French  
and German abstracts now searchable. See HELP NEWS 348 for info.  
File 34:SciSearch(R) Cited Ref Sci 1990-2000/Jul W1  
(c) 2000 Inst for Sci Info  
File 440:Current Contents Search(R) 1990-2000/Jul W3  
(c) 2000 Inst for Sci Info

Set Items Description

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Executing TD059

>>>SET HIGHLIGHT: use ON, OFF, or 1-5 characters

	1365	AROA
	34853	HELICOB?
	36246	PYLORI
	77	PYLOR
	894	PYLORIDIS
	42	PYLORIS
	44	HPYLORI
S1	11	AROA (100N) (HELICOB? OR PYLORI OR PYLOR OR PYLORIDIS OR PYLORIS OR HPYLORI)

?rd

>>>Duplicate detection is not supported for File 654.

>>>Duplicate detection is not supported for File 349.

>>>Duplicate detection is not supported for File 348.

>>>Records from unsupported files will be retained in the RD set.

>>>Record 440:11686179 ignored; incomplete bibliographic data, not retained  
in RD set

...completed examining records

S2 10 RD (unique items)

?t s2/6,kwic/all

2/6,KWIC/1 (Item 1 from file: 654)

DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

03050937

METHOD OF MAKING NON-PYROGENIC LIPOPOLYSACCHARIDE OR A

FULL TEXT: 2156 lines

...can be employed in the present invention include P. aeruginosa (ATCC No.  
23267 .

The particular **Helicobacter** strain employed is not critical to the  
present invention. Examples of **Helicobacter** strains which can be employed  
in the present invention include H. **pylori** (ATCC No. 43504), H. **mustelae**  
(ATCC No. 43772).

The particular **Salmonella** ... 6994). S. **typhi** aroC, aroD (Hone et al,  
Vacc., 9:810-816 (1991)), S. **typhimurium** aroA mutant (Mastroeni et al,  
Micro. Pathol., 13:477-491 (1992)).

The particular **Vibrio** strain employed...

2/6,KWIC/2 (Item 2 from file: 654)

DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

02919058

METHOD FOR INTRODUCING AND EXPRESSING GENES IN ANIMAL CELLS AND LIVE  
INVASIVE BACTERIAL VECTORS FOR USE IN THE SAME  
FULL TEXT: 1513 lines

/9/8 (Item 1 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci  
(c) 2000 Inst for Sci Info. All rts. reserv.

05290777 Genuine Article#: VN238 Number of References: 49

**Title: CLONING, SEQUENCING, EXPRESSION, PURIFICATION AND PRELIMINARY  
CHARACTERIZATION OF A TYPE-II DEHYDROQUINASE FROM HELICOBACTER-PYLORI**

Author(s): BOTTOMLEY JR; CLAYTON CL; CHALK PA; KLEANTHOUS C

Corporate Source: UNIV E ANGLIA, SCH BIOL SCI/NORWICH NR4

7TJ/NORFOLK/ENGLAND/; UNIV E ANGLIA, SCH BIOL SCI/NORWICH NR4

7TJ/NORFOLK/ENGLAND/; GLAXO WELLCOME RES & DEV LTD, MED RES

CTR/STEVENAGE SG1 2NY/HERTS/ENGLAND/

Journal: BIOCHEMICAL JOURNAL, 1996, V319, OCT (OCT 15), P559-565

ISSN: 0264-6021

Language: ENGLISH Document Type: ARTICLE

Geographic Location: ENGLAND

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY

**Abstract:** A heat-stable dehydroquinase was purified to near homogeneity from a plate-grown suspension of the Gram-negative stomach pathogen *Helicobacter pylori*, and shown from both its subunit and native molecular masses to be a member of the type II family of dehydroquinases. This was confirmed by N-terminal amino acid sequence data. The gene encoding this activity was isolated following initial identification, by random sequencing of the *H. pylori* genome, of a 96 bp fragment, the translated sequence of which showed strong identity to a C-terminal region of other type II enzymes. Southern blot analysis of a cosmid library identified several potential clones, one of which complemented an *Escherichia coli* *aroD* point mutant strain deficient in host dehydroquinase. The gene encoding the *H. pylori* type II dehydroquinase (designated *aroQ*) was sequenced. The translated sequence was identical to the N-terminal sequence obtained directly from the purified protein, and showed strong identity to other members of the type II family of dehydroquinases. The enzyme was readily expressed in *E. coli* from a plasmid construct from which several milligrams of protein could be isolated, and the molecular mass of the protein was confirmed by electrospray MS. The *aroQ* gene in *H. pylori* may function in the central biosynthetic shikimate pathway of this bacterium, thus opening the way for the construction of attenuated strains as potential vaccines as well as offering a new target for selective enzyme inhibition.

Identifiers--KeyWords Plus: AMINO-ACID BIOSYNTHESIS; ESCHERICHIA-COLI;  
ASPERGILLUS-NIDULANS; SHIKIMATE PATHWAY; SALMONELLA-TYPHI; ACTIVE-SITE;  
CAMPYLOBACTER-PYLORI; NUCLEOTIDE-SEQUENCE; NEUROSPORA-CRASSA;  
MOLECULAR-CLONING

Research Fronts: 94-1492 001 (**HELICOBACTER -PYLORI** INFECTION;  
IMPLICATIONS FOR ULCER THERAPY; ACID-PEPTIC DISEASE)

94-6345 001 (ESCHERICHIA-COLI RNA-POLYMERASE; LACUV5 PROMOTER;  
TRANSCRIPTION INITIATION; EXPRESSION ANALYSIS)

94-6609 001 (LIVE ATTENUATED **AROA** SALMONELLA VACCINE; INVASION OF  
EPITHELIAL-CELLS; VIRULENCE PHENOTYPE; STARVATION SURVIVAL GENES;  
DEFINED OMPR MUTANTS)

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2/9/9 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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04806524 Genuine Article#: UJ557 Number of References: 45

**Title: OPTIMIZED BLAM-TRANSPOSON SHUTTLE MUTAGENESIS OF HELICOBACTER-PYLORI  
 ALLOWS THE IDENTIFICATION OF NOVEL GENETIC-LOCI INVOLVED IN BACTERIAL  
 VIRULENCE**

Author(s): ODENBREIT S; TILL M; HAAS R

Corporate Source: MAX PLANCK INST BIOL, INFEKT BIOL ABT, SPEMANNSTR34/D-72076

TUBINGEN//GERMANY//; MAX PLANCK INST BIOL, INFEKT BIOL ABT/D-72076

TUBINGEN//GERMANY/

Journal: MOLECULAR MICROBIOLOGY, 1996, V20, N2 (APR), P361-373

ISSN: 0950-382X

Language: ENGLISH Document Type: ARTICLE

Geographic Location: GERMANY

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; MICROBIOLOGY

Abstract: Helicobacter pylori is an important etiologic agent of

gastroduodenal disease in humans, In this report, we describe a general genetic approach for the identification of genes encoding exported proteins in H. pylori. The novel TnMax9 mini-blaM transposon was used for insertion mutagenesis of a H. pylori gene library established in Escherichia coli. A total of 192 E. coli clones expressing active p-lactamase fusion proteins (BlaM(+)) were obtained, indicating that the corresponding target plasmids carry H. pylori genes encoding putative extracytoplasmic proteins. Natural transformation of H. pylori P1 or P12 using the 192 mutant plasmids resulted in 135 distinct H. pylori mutant strains (70-), Screening of the H. pylori collection of mutant strains allowed the identification of mutant strains impaired in



motility, in natural transformation competence and in adherence to gastric epithelial cell lines. Motility mutants could be grouped into distinct classes: (i) mutant strains lacking the major flagellin subunit FlaA and intact flagella (class I); (ii) mutant strains with apparently normal flagella, but reduced motility (class II), and (iii) mutant strains with obviously normal flagella, but completely abolished motility (class III). Two independent mutations that exhibited defects in natural competence for genetic transformation mapped to different genetic loci. In addition, two independent mutant strains were isolated by their failure to bind to the human gastric carcinoma cell line Katolll. Both mutant strains carried a transposon in the same gene, 0.8 kb apart, and showed decreased autoagglutination when compared to the wild-type strain.

Identifiers--KeyWords Plus: HUMAN GASTRIC EPITHELIUM; DUODENAL-ULCER; TNPHOA MUTANTS; CLONING; INFECTION; PROTEINS; DNA; TRANSFORMATION; CONSTRUCTION; COLONIZATION

Research Fronts: 94-4806 003 (GENE ORGANIZATION; LONG-CHAIN FATTY-ACID TRANSPORT; TRANSCRIPTION FACTOR)

94-1492 002 (**HELICOBACTER -PYLORI** INFECTION; IMPLICATIONS FOR ULCER THERAPY; ACID-PEPTIC DISEASE)

94-3070 001 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)

94-7725 001 (VIBRIO-CHOLERAEE 01; REGULATORY GENE; GENETICALLY DEFINED SALMONELLA-ENTERITIDIS **AROA** STRAIN; YOP SECRETION; INNER MEMBRANE-PROTEIN; TOXR REGULON)

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2/9/10 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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03782168 Genuine Article#: QF435 Number of References: 116

**Title: VACCINATION IN EUROPEAN SALMONID AQUACULTURE - A REVIEW OF PRACTICES AND PROSPECTS**

Author(s): PRESS CM; LILLEHAUG A

Corporate Source: NORWEGIAN COLL VET MED, DEPT MORPHOL GENET & AQUAT  
BIOL, BOX 8146 DEPT/N-0033 OSLO//NORWAY//; CENT VET LAB, DEPT  
IMMUNOPROPHYLLAXIS/OSLO//NORWAY//

Journal: BRITISH VETERINARY JOURNAL, 1995, V151, N1 (JAN-FEB), P45-69  
ISSN: 0007-1935

Language: ENGLISH Document Type: ARTICLE

Geographic Location: NORWAY

Subfile: SciSearch; CC AGRI--Current Contents, Agriculture, Biology &  
Environmental Sciences

Journal Subject Category: VETERINARY SCIENCES

**Abstract:** Disease control by vaccination is widely used in European salmonid aqua-culture against vibriosis (*Vibrio anguillarum*), cold-water vibriosis (*Vibrio salmonicida*), yersiniosis or enteric redmouth disease (*Yersinia ruckeri*) and furunculosis (*Aeromonas salmonicida* subsp. *salmonicida*). The vaccines against the *Vibrio* spp. and *Y. ruckeri* have proven effective especially when administered by injection. Furunculosis vaccines have been less successful and have relied on combination with potent adjuvants to achieve acceptable protection. Application of modern molecular techniques to furunculosis research has delivered a crop of experimental vaccines that incorporate purified virulence factors and have shown increased protection during challenge. Gene technology has also been used to create a defined, non-reverting mutation in a strain of *A. salmonicida*, which has enhanced the feasibility of attenuated live vaccines. The development of experimental subunit vaccines against the viral infections and the continued advances in the field of immunostimulants, adjuvants and antigen carriers provide considerable promise for the future development of commercial vaccines for use in salmonid aquaculture.

**Descriptors--Author Keywords:** SALMONIDS ; AQUACULTURE ; VACCINATION ; VIBRIOSIS ; YERSINIOSIS ; FURUNCULOSIS

**Identifiers--KeyWords Plus:** TROUT ONCORHYNCHUS-MYKISS; CARP CYPRINUS-CARPIO; PATHOGEN RENIBACTERIUM-SALMONINARUM; VIBRIO-ANGUILLARUM BACTERIN; YERSINIA-RUCKERI BACTERINS; PANCREATIC NECROSIS VIRUS; MAJOR SOLUBLE-ANTIGEN; ATLANTIC SALMON; AEROMONAS-SALMONICIDA; RAINBOW-TROUT

**Research Fronts:** 93-1036 001 (HEN EGG-WHITE LYSOZYME; RESORCINOL CYCLIC TETRAMER; ERYTHRINA-CORALLODENDRON LECTIN; HOST GUEST COMPLEXATION; MOLECULAR RECOGNITION OF SUGARS)

93-1870 001 (VIBRIO-ANGUILLARUM STRAINS; IN-VITRO SUSCEPTIBILITY; **HELICOBACTER -PYLORI** INFECTION; TURBOT AQUAREOVIRUS)

93-4240 001 (LIVE ATTENUATED **AROA** SALMONELLA VACCINES; ORAL VACCINATION; TEMPERATURE-SENSITIVE MUTANTS)

93-7708 001 (HAEMONCHUS-CONTORTUS GUT MEMBRANE-PROTEINS; VACCINATION OF LAMBS; PROTECTIVE ANTIGEN)

**Cited References:**

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AMEND DF, 1983, V6, P337, J FISH DIS  
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 CHIEN MS, 1992, V96, P259, FEMS MICROBIOL LETT  
 CHU S, 1991, V266, P5258, J BIOL CHEM  
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 DAVIDSON GA, 1993, V17, P373, DEV COMP IMMUNOL  
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 EVANS DL, 1992, V2, P109, ANN REV FISH DIS  
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 GJEDREM T, 1991, V97, P1, AQUACULTURE  
 GOULD RW, 1978, V13, P63, FISH PATHOL  
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 HART S, 1988, V12, P453, DEV COMP IMMUNOL  
 HASTEIN T, 1986, V6, P45, B EUR ASS FISH PATHO  
 HASTINGS TS, 1988, P93, FISH VACCINATION  
 HJELTINES B, 1993, P109, BACTERIAL DISEASES F  
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 HOISETH SK, 1981, V291, P238, NATURE  
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 HORNE MT, 1987, V18, P131, AQUACULTURE FISHERIE  
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 KAATTARI SL, 1992, V2, P161, ANN REV FISH DIS  
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 KAY WW, 1991, V47, P412, EXPERIENTIA  
 KNOTT RM, 1986, V12, P359, VET IMMUNOL IMMUNOP  
 KODAMA H, 1993, V17, P129, DEV COMP IMMUNOL  
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 LEIRA HL, 1993, V113, P1563, TIDSKRIFT NORSKE LAE  
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 LILLEHAUG A, 1990, V13, P519, J FISH DIS  
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 MACLEAN N, 1990, V85, P1, AQUACULTURE  
 MANNING MJ, 1982, V2, P75, DEV COMP IMMUNOL S  
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 MYHR E, 1991, V57, P2750, APPL ENVIRON MICROB  
 NEWMAN SG, 1993, V3, P145, ANN REV FISH DISEASE  
 NIKI L, 1991, V12, P7, DISEASES AQUATIC ORG  
 NILSEN H, 1992, V15, P323, J FISH DIS  
 OLIVIER G, 1985, V8, P43, J FISH DIS  
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 POURREAU CN, 1986, V12, P331, VET IMMUNOL IMMUNOP  
 PRESS CM, 1994, V4, P79, FISH SHELLFISH IMMUN  
 PRICE NC, 1990, V13, P49, J FISH DIS  
 REILLY P, 1993, V3, P59, FISH SHELLFISH IMMUN  
 RIJKERS GT, 1982, V2, P93, DEV COMP IMMUNOLOG S  
 RILEY EM, 1993, V112, P271, AQUACULTURE  
 ROBERTSEN B, 1990, V13, P391, J FISH DIS  
 ROMBOUT JHWM, 1993, V17, P309, DEV COMP IMMUNOL  
 ROMBOUT JHWM, 1993, V17, P55, DEV COMP IMMUNOL  
 ROMBOUT JHWM, 1986, V10, P341, DEV COMP IMMUNOL  
 RORSTAD G, 1993, V3, P179, FISH SHELLFISH IMMUN  
 ROSJO C, 1993, V16, P87, J FISH DIS  
 SAKAI M, 1993, V113, P11, AQUACULTURE  
 SAKAI M, 1993, V16, P239, J FISH DIS  
 SALTE R, 1992, V15, P215, J FISH DIS  
 SANO M, 1992, V15, P283, J FISH DIS  
 SECOMBES CJ, 1992, V2, P53, ANN REV FISH DIS  
 SECOMBES CJ, 1988, P237, FISH VACCINATION  
 SINGER JT, 1991, V13, P49, J MICROBIOL METH  
 SMAIL DA, 1992, V15, P77, J FISH DIS  
 SORENSEN UBS, 1986, V51, P593, APPL ENVIRON MICROB  
 TATNER MF, 1984, V41, P193, AQUACULTURE  
 TATNER MF, 1983, V7, P465, DEV COMP IMMUNOL  
 TATNER MF, 1989, V13, P387, DEV COMP IMMUNOL  
 TATNER MF, 1983, V22, P585, J FISH BIOL  
 TATNER MF, 1991, V14, P395, J FISH DIS  
 TATNER MF, 1993, P199, VACCINES VET APPLICA  
 THIERY M, 1990, V23, P221, VET MICROBIOL  
 THORBURN MA, 1987, V2, P167, DISEASE AQUAT ORG  
 THORBURN MA, 1986, P311, 4TH P INT S VET EP E  
 THORBURN MA, 1988, V71, P285, AQUACULTURE  
 THORNTON JC, 1991, V11, P85, MICROB PATHOGENESIS  
 VALLEJO AN, 1992, V2, P73, ANN REV FISH DIS  
 VALLEJO AN, 1993, V17, P229, DEV COMP IMMUNOL  
 VAUGHAN LM, 1993, V61, P2172, INFECT IMMUN  
 VELJI MI, 1991, V11, P79, DISEASE AQUAT ORG  
 VIGNEULLE M, 1991, V11, P85, DISEASE AQUAT ORG  
 WILLADSEN P, 1989, V143, P1346, J IMMUNOL  
 WONG G, 1992, V21, P353, IMMUNOL INVEST  
 ZAPATA AG, 1992, V13, P142, IMMUNOL TODAY

?logoff hold

06jul00 15:43:23 User228206 Session D1250.7  
 \$1.39 0.235 DialUnits File654  
 \$0.65 1 Type(s) in Format 3  
 \$0.65 1 Types  
 \$2.04 Estimated cost File654  
 \$0.11 0.024 DialUnits File349  
 \$0.11 Estimated cost File349  
 \$0.11 0.024 DialUnits File348  
 \$0.11 Estimated cost File348  
 \$1.84 0.141 DialUnits File34  
 \$11.25 3 Type(s) in Format 9  
 \$11.25 3 Types  
 \$13.09 Estimated cost File34  
 \$0.31 0.024 DialUnits File440  
 \$0.31 Estimated cost File440  
 OneSearch, 5 files, 0.447 DialUnits FileOS  
 \$0.05 TYMNET  
 \$15.71 Estimated cost this search  
 \$15.71 Estimated total session cost 0.447 DialUnits

### Status: Signed Off. (1 minutes)

### Status: Path 1 of [Dialog Information Services via Modem]

- ### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)  
Trying 3106900061...Open

. DIALOG INFORMATION SERVICES

PLEASE LOGON:

\*\*\*\*\* HHHHHHHH SSSSSSSS?

### Status: Signing onto Dialog

\*\*\*\*\*

ENTER PASSWORD:

\*\*\*\*\* HHHHHHHH SSSSSSSS? \*\*\*\*\*

### Status: Path 1 of [Dialog Information Services via Modem]  
### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)  
Trying 3106900061...Open

DIALOG INFORMATION SERVICES

PLEASE LOGON:

\*\*\*\*\* HHHHHHHH SSSSSSSS?

### Status: Signing onto Dialog

\*\*\*\*\*

ENTER PASSWORD:

\*\*\*\*\* HHHHHHHH SSSSSSSS? \*\*\*\*\*

Welcome to DIALOG

### Status: Connected

Dialog level 00.06.30D

Last logoff: 06jul00 12:11:43

Logon file405 06jul00 14:58:18

SYSTEM:HOME

Menu System II: D2 version 1.7.8 term=ASCII

\*\*\* DIALOG HOMEBASE(SM) Main Menu \*\*\*

Information:

1. Announcements (new files, reloads, etc.)
2. Database, Rates, & Command Descriptions
3. Help in Choosing Databases for Your Topic
4. Customer Services (telephone assistance, training, seminars, etc.)
5. Product Descriptions

Connections:

6. DIALOG(R) Document Delivery
7. Data Star(R)

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/H = Help

/L = Logoff

/NOMENU = Command Mode

Enter an option number to view information or to connect to an online service. Enter a BEGIN command plus a file number to search a database (e.g., B1 for ERIC).

?b 652 653 654

06jul00 14:58:30 User228206 Session D1250.1

\$0.00 0.168 DialUnits FileHomeBase

\$0.00 Estimated cost FileHomeBase

\$0.01 TYMNET

\$0.01 Estimated cost this search

\$0.01 Estimated total session cost 0.168 DialUnits

SYSTEM:OS - DIALOG OneSearch

File 652:US Patents Fulltext 1971-1979

(c) format only 2000 The Dialog Corp.

**\*File 652: Reassignment data current through 12/06/1999 recordings.**

Due to recent processing problems, the SORT command is not working.

File 653:US Pat.Fulltext 1980-1989

(c) format only 2000 The Dialog Corp.

**\*File 653: Reassignment data current through 12/06/1999 recordings.**

Due to recent processing problems, the SORT command is not working.

File 654:US Pat.Full. 1990-2000/Jul.04

(c) format only 2000 The Dialog Corp.

**\*File 654: Reassignment data current through 12/06/1999 recordings.**

Due to recent processing problems, the SORT command is not working.

Set	Items	Description
?s	(salmonella? or helicobacter? or pylori or pyloridis or pyloris or pylor)/ti	
	79	SALMONELLA?/TI
	68	HELICOBACTER?/TI
	69	PYLORI/TI
	0	PYLORIDIS/TI
	0	PYLORIS/TI
	0	PYLOR/TI
S1	169	(SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PYLORIS OR PYLOR)/TI
?s	attenuat? or mutant? or avirulent? or aroA or guaa or gua or reca	
	93604	ATTENUAT?
	18589	MUTANT?
	576	AVIRULENT?
	297	AROA
	17	GUAA
	815	GUA
	1021	RECA
S2	110957	ATTENUAT? OR MUTANT? OR AVIRULENT? OR AROA OR GUAA OR GUA OR RECA

?ds

Set	Items	Description
S1	169	(SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PYLORIS OR PYLOR)/TI
S2	110957	ATTENUAT? OR MUTANT? OR AVIRULENT? OR AROA OR GUAA OR GUA - OR RECA
?s	s1 and s2	
	169	S1
	110957	S2
S3	57	S1 AND S2
?s	s3 and (helicobacter? or pylroi or pylor or pyloridis or pyloris or pylori)	
	57	S3
	557	HELICOBACTER?
	0	PYLROI
	4	PYLOR
	51	PYLORIDIS
	16	PYLORIS
	615	PYLORI
S4	23	S3 AND (HELICOBACTER? OR PYLROI OR PYLOR OR PYLORIDIS OR PYLORIS OR PYLORI)
?s	s4 and (salmonella? or typhi or typhimurium?)	
	23	S4
	8405	SALMONELLA?
	1038	TYPHI
	3730	TYPHIMURIUM?
S5	15	S4 AND (SALMONELLA? OR TYPHI OR TYPHIMURIUM?)
?t	s5/3/all	

5/3/1 (Item 1 from file: 654)  
 DIALOG(R) File 654:US Pat.Full.  
 (c) format only 2000 The Dialog Corp. All rts. reserv.

03113767

Utility  
 PURIFIED VACUOLATING TOXIN FROM **HELICOBACTER PYLORI** AND METHODS TO USE SAME

PATENT NO.: 6,054,132  
 ISSUED: April 25, 2000 (20000425)  
 INVENTOR(s): Cover, Timothy L., Nashville, TN (Tennessee), US (United States of America)  
 Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)  
 ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation),

Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]

APPL. NO.: 8-284,747  
FILED: August 02, 1994 (19940802)

This application is a continuation of application Ser. No. 07-841,644,  
filed Feb. 26, 1992, now abandoned.

FULL TEXT: 1192 lines

**5/3/2 (Item 2 from file: 654)**

DIALOG(R) File 654:US Pat.Full.

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03110458

Utility

METHODS FOR PRODUCING ENHANCED ANTIGENIC **HELICOBACTER** SP.

PATENT NO.: 6,051,416

ISSUED: April 18, 2000 (20000418)

INVENTOR(s): Pace, John Lee, Germantown, MD (Maryland), US (United States  
of America)

Walker, Richard Ives, Gaithersburg, MD (Maryland), US (United  
States of America)

Frey, Steven Michael, Germantown, MD (Maryland), US (United  
States of America)

ASSIGNEE(s): Antex Biologics Inc, (A U.S. Company or Corporation),  
Gaithersburg, MD (Maryland), US (United States of America)  
[Assignee Code(s): 36041]

APPL. NO.: 8-865,147

FILED: May 29, 1997 (19970529)

This application is a divisional of U.S. Ser. No. 08-538,544, filed Oct.  
3, 1995, which is a continuation-in-part of U.S. Ser. No. 08-318,409, filed  
Oct. 5, 1994, now abandoned.

FULL TEXT: 2058 lines

**5/3/3 (Item 3 from file: 654)**

DIALOG(R) File 654:US Pat.Full.

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03084757

Utility

GENES OF **HELICOBACTER** **PYLORI** NECESSARY FOR THE REGULATION AND  
MATURATION OF UREASE AND THEIR USE

PATENT NO.: 6,027,878

ISSUED: February 22, 2000 (20000222)

INVENTOR(s): Labigne, Agnes, Bures Sur Yvette, FR (France)

Cussac, Valerie, Paris, FR (France)

Ferrero, Richard, Paris, FR (France)

ASSIGNEE(s): Institut National de la Sante et de la Recherche Medicale, (A  
Non-U.S. Company or Corporation), FR (France)  
Institut Pasteur, (A Non-U.S. Company or Corporation), FR  
(France)

[Assignee Code(s): 42312]

APPL. NO.: 8-472,285

FILED: June 07, 1995 (19950607)

PRIORITY: 91-12198, FR (France), October 3, 1991 (19911003)

This is a Division of application Ser. No. 08-211,312 filed on Jul. 1,  
1994, pending, which was filed as International Application No.  
PCT-FR92-00921 on Oct. 2, 1992.



FULL TEXT: 2182 lines

**5/3/4 (Item 4 from file: 654)**

DIALOG(R)File 654:US Pat.Full.

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03068011

Utility

PURIFIED VACUOLATING TOXIN FROM **HELICOBACTER** **PYLORI** AND METHODS TO USE SAME

PATENT NO.: 6,013,463

ISSUED: January 11, 2000 (20000111)

INVENTOR(s): Cover, Timothy L., Nashville, TN (Tennessee), US (United States of America)

Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)

ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation), Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]

APPL. NO.: 8-473,265

FILED: June 07, 1995 (19950607)

This application is a division of application Ser. No. 08-284,747 filed on Aug. 2, 1994, status pending, which is a filewrapper continuation of Ser. No. 07-841,644, filed Feb. 26, 1992, now abandoned.

FULL TEXT: 1103 lines

**5/3/5 (Item 5 from file: 654)**

DIALOG(R)File 654:US Pat.Full.

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03058570

Utility

TREATMENT AND PREVENTION OF **HELICOBACTER** INFECTION

PATENT NO.: 6,005,090

ISSUED: December 21, 1999 (19991221)

INVENTOR(s): Doidge, Christopher V., Vincent, AU (Australia)

Lee, Adrian, Lane Cove, AU (Australia)

Radcliff, Flona J., Sydney, AU (Australia)

Hazell, Stuart L., Glenfield, AU (Australia)

ASSIGNEE(s): CSL Limited, (A Non-U.S. Company or Corporation), Victoria, AU (Australia)

The University of New South Wales, (A Non-U.S. Company or Corporation), Kensington, AU (Australia)

[Assignee Code(s): 40730]

APPL. NO.: 8-695,987

FILED: August 15, 1996 (19960815)

PRIORITY: PM-6124, AU (Australia), June 8, 1994 (19940608)

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application is a continuation-in-part of International Patent Application No. PCT-AU95-00335, dated Jun. 8, 1995, and designating the United States of America, the disclosure of which is incorporated herein by reference.

FULL TEXT: 1410 lines

**5/3/6 (Item 6 from file: 654)**

DIALOG(R)File 654:US Pat.Full.

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02941724

Utility

VACCINES COMPRISING ENHANCED ANTIGENIC **HELICOBACTER** SPP.

PATENT NO.: 5,897,475  
ISSUED: April 27, 1999 (19990427)  
INVENTOR(s): Pace, John Lee, Germantown, MD (Maryland), US (United States of America)  
Walker, Richard Ives, Gaithersburg, MD (Maryland), US (United States of America)  
Frey, Steven Michael, Germantown, MD (Maryland), US (United States of America)  
ASSIGNEE(s): Antex Biologics, Inc, (A U.S. Company or Corporation),  
Gaithersburg, MD (Maryland), US (United States of America)  
[Assignee Code(s): 36041]  
APPL. NO.: 8-538,544  
FILED: October 03, 1995 (19951003)

This application is a continuation-in-part of application Ser. No. 08-318,409, filed Oct. 5, 1994, now abandoned.  
FULL TEXT: 2023 lines

5/3/7 (Item 7 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
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02918847

Utility

**HELICOBACTER** TAGA GENE FUSION PROTEIN

PATENT NO.: 5,876,943  
ISSUED: March 02, 1999 (19990302)  
INVENTOR(s): Cover, Timothy L., Nashville, TN (Tennessee), US (United States of America)  
Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)  
Kleanthous, Harry, Cambridge, MA (Massachusetts), US (United States of America)  
Tummuru, Murali K. R., Nashville, TN (Tennessee), US (United States of America)  
ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation),  
Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]  
APPL. NO.: -34,306  
FILED: March 02, 1998 (19980302)

This application is a continuation of, and claims the benefit of, application Ser. No. 08-316,397, filed Sep. 30, 1994, now U.S. Pat. No. 5,733,340 which is a Continuation-in-Part of Ser. No. 08-053,614, filed Apr. 26, 1993, now U.S. Pat. No. 5,403,924, issued Apr. 4, 1995, which is a Continuation-in-Part of Ser. No. 07-959,940, filed Sep. 13, 1992, now abandoned, which applications are hereby incorporated herein by reference.

FULL TEXT: 2698 lines

5/3/8 (Item 8 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
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02899005

Utility

PURIFIED VACUOLATING TOXIN FROM **HELICOBACTER** **PYLORI** AND METHODS TO USE SAME

[ Isolated nucleotide sequences used for detection of infection as primers for amplification and probes for hybridization; antiulcer agents; anticancer agents]

PATENT NO.: 5,859,219  
 ISSUED: January 12, 1999 (19990112)  
 INVENTOR(s): Cover, Timothy L., Nashville, TN (Tennessee), US (United States of America)  
 Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)  
 ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation), Nashville, TN (Tennessee), US (United States of America)  
 [Assignee Code(s): 88418]  
 APPL. NO.: 8-295,643  
 FILED: October 27, 1994 (19941027)  
 PCT: PCT-US93-01558 (WO 93US1558)  
 Section 371 Date: October 27, 1994 (19941027)  
 Section 102(e) Date: October 27, 1994 (19941027)  
 Filing Date: February 24, 1993 (19930224)  
 Publication Number: WO93-16723 (WO 9316723)  
 Publication Date: September 02, 1993 (19930902)

This application is a 371 of PCT-US93-01558, which is a continuation-in-part of U.S. Ser. No. 841,644 filed Feb. 26, 1992 now abandoned.

FULL TEXT: 1575 lines

5/3/9 (Item 9 from file: 654)  
 DIALOG(R) File 654:US Pat.Full.  
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02881348

Utility

IMMUNOGENIC COMPOSITIONS AGAINST **HELICOBACTER** INFECTION, POLYPEPTIDES FOR USE IN THE COMPOSITIONS, AND NUCLEIC ACID SEQUENCES ENCODING SAID POLYPEPTIDES

PATENT NO.: 5,843,460  
 ISSUED: December 01, 1998 (19981201)  
 INVENTOR(s): Labigne, Agnes, Bures S/Yvette, FR (France)  
 Suerbaum, Sebastin, Bochum, DE (Germany)  
 Ferrero, Richard L., Paris, FR (France)  
 Thiberge, Jean-Michel, Plaisir, FR (France)  
 ASSIGNEE(s): Institut National de la Sante et de la Recherche Medicale, (A Non-U.S. Company or Corporation), Paris, FR (France)  
 Institut Pasteur, (A Non-U.S. Company or Corporation), Paris, FR (France)  
 [Assignee Code(s): 42312; 42342]  
 APPL. NO.: 8-467,822  
 FILED: June 06, 1995 (19950606)  
 PRIORITY: 93-401-309, EP (European Patent Office), May 19, 1993 (19930519)  
 PCT-EP93-03259, WO (World Intellectual Property Org), November 19, 1993 (19931119)

#### CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 08-447,177 filed May 19, 1995, which is a continuation-in-part of application Ser. No. 08-432,697, filed May 2, 1995, which is a continuation-in-part of International Application PCT-EP94-01625, filed 19 May 1994, which is based on International Application PCT-EP93-03259, filed 19 Nov. 1993, and European Application No. 93 401 309.5, filed 19 May 1993. Applicants claim the benefits of the International filing dates and priority of the European filing date. The entire disclosure of each of these applications is relied upon and incorporated by reference herein.

FULL TEXT: 4254 lines

5/3/10 (Item 10 from file: 654)

DIALOG(R)File 654:US Pat.Full.

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02835456

Utility

**HELICOBACTER** AMINOACYL-TRNA SYNTHETASE PROTEINS, NUCLEIC ACIDS AND STRAINS COMPRISING SAME

PATENT NO.: 5,801,013

ISSUED: September 01, 1998 (19980901)

INVENTOR(s): Tao, Jianshi, Needham, MA (Massachusetts), US (United States of America)

Qiu, Yan, Brookline, MA (Massachusetts), US (United States of America)

Houman, Fariba, Belmont, MA (Massachusetts), US (United States of America)

Shen, Xiaoyu, S. Boston, MA (Massachusetts), US (United States of America)

Schimmel, Paul R., Cambridge, MA (Massachusetts), US (United States of America)

ASSIGNEE(s): Cubist Pharmaceuticals, Inc , (A U.S. Company or Corporation), Cambridge, MA (Massachusetts), US (United States of America)  
[Assignee Code(s): 41839]

APPL. NO.: 8-451,715

FILED: May 26, 1995 (19950526)

FULL TEXT: 5429 lines

5/3/11 (Item 11 from file: 654)

DIALOG(R)File 654:US Pat.Full.

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02750681

Utility

VACUOLATING TOXIN-DEFICIENT H. **PYLORI**  
[Genetically altered **mutant** strain]

PATENT NO.: 5,721,349

ISSUED: February 24, 1998 (19980224)

INVENTOR(s): Cover, Timothy L., Nashville, TN (Tennessee), US (United States of America)

Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)

ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation), Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]

APPL. NO.: 8-200,232

FILED: February 23, 1994 (19940223)

RELATED APPLICATION

This application is a continuation-in-part application of U.S. application Ser. No. 07-841,644, filed Feb. 26, 1992 now abandoned.

GOVERNMENT ACKNOWLEDGMENT

This work was supported in part by R29 DK45293-02 from the National Institutes of Health, the Medical Research Service of the Department of Veterans Affairs, and R01 CA58834 from the National Cancer Institute. The government has certain rights in the invention.

FULL TEXT: 1711 lines

5/3/12 (Item 12 from file: 654)

DIALOG(R)File 654:US Pat.Full.

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02730038

Utility

NUCLEIC ACID ENCODING **HELICOBACTER PYLORI** ENOLASE  
[Hybrids]

PATENT NO.: 5,703,219

ISSUED: December 30, 1997 (19971230)

INVENTOR(s): Thompson, Stuart A., Joelton, TN (Tennessee), US (United States of America)  
Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)

ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation), Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]

APPL. NO.: 8-446,920

FILED: May 22, 1995 (19950522)

This is a continuation-in-part of application Ser. No. 08-215,928, filed: Mar. 21, 1994 issued as U.S. Pat. No. 5,434,253 on Jul. 18, 1995.

This work was supported by National Institutes of Health grant R01CA58834. The government has certain rights in the invention.

FULL TEXT: 1567 lines

5/3/13 (Item 13 from file: 654)

DIALOG(R)File 654:US Pat.Full.

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02550206

Utility

ORAL TREATMENT OF **HELICOBACTER** INFECTION  
[Bactericides and vaccines]

PATENT NO.: 5,538,729

ISSUED: July 23, 1996 (19960723)

INVENTOR(s): Czinn, Steven J., Cleveland, OH (Ohio), US (United States of America)  
Nedrud, John G., Cleveland, OH (Ohio), US (United States of America)

ASSIGNEE(s): OraVax, Inc, (A U.S. Company or Corporation), Cambridge, MA (Massachusetts), US (United States of America)  
[Assignee Code(s): 39199]

APPL. NO.: 8-293,565

FILED: August 22, 1994 (19940822)

This is a continuation of application Ser. No. 08-072,162, filed Jun. 3, 1993, now abandoned, which is a continuation of application Ser. No. 07-868,286, filed Apr. 13, 1992, abandoned.

FULL TEXT: 789 lines

5/3/14 (Item 14 from file: 654)

DIALOG(R)File 654:US Pat.Full.

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02538069

Utility

CAGB AND CAGC GENES OF **HELICOBACTER PYLORI** AND RELATED COMPOSITIONS  
[Polypeptide; peptic ulcers]

PATENT NO.: 5,527,678  
ISSUED: June 18, 1996 (19960618)  
INVENTOR(s): Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)  
Tummuru, Murali K. R., Nashville, TN (Tennessee), US (United States of America)  
Sharma, Smita A., Nashville, TN (Tennessee), US (United States of America)  
ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation), Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]  
APPL. NO.: 8-327,494  
FILED: October 21, 1994 (19941021)

This invention was made with government support under Grant No. ROICA 58834, awarded by the National Institutes of Health. The Government has certain rights in the invention.

FULL TEXT: 1906 lines

5/3/15 (Item 15 from file: 654)  
DIALOG(R) File 654:US Pat.Full.  
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02434333

Utility  
DNA ENCODING **HELICOBACTER PYLORI** RECOMBINASE  
[Gastritis vaccines]

PATENT NO.: 5,434,253  
ISSUED: July 18, 1995 (19950718)  
INVENTOR(s): Thompson, Stuart A., Joelton, TN (Tennessee), US (United States of America)  
Blaser, Martin J., Nashville, TN (Tennessee), US (United States of America)  
ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation), Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]  
APPL. NO.: 8-215,928  
FILED: March 21, 1994 (19940321)

This invention was made with government support under Grant No. CA 58834, awarded by the National Institutes of Health. The Government has certain rights in the invention.

FULL TEXT: 850 lines

?logoff hold

06jul00 14:59:59 User228206 Session D1250.2  
\$0.85 0.144 DialUnits File652  
\$0.85 Estimated cost File652  
\$1.17 0.198 DialUnits File653  
\$1.17 Estimated cost File653  
\$3.09 0.524 DialUnits File654  
\$9.75 15 Type(s) in Format 3  
\$9.75 15 Types  
\$12.84 Estimated cost File654  
OneSearch, 3 files, 0.866 DialUnits FileOS  
\$0.10 TYMNET  
\$14.96 Estimated cost this search  
\$14.97 Estimated total session cost 1.034 DialUnits

### Status: Signed Off. (2 minutes)

### Status: Path 1 of [Dialog Information Services via Modem]

### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceProto-dialog)  
Trying 3106900061...Open

DIALOG INFORMATION SERVICES

PLEASE LOGON:

\*\*\*\*\* HHHHHHHH SSSSSSSS?

### Status: Signing onto Dialog

\*\*\*\*\*

ENTER PASSWORD:

\*\*\*\*\* HHHHHHHH SSSSSSSS?r090jjvh \*\*\*\*\*

Welcome to DIALOG

### Status: Connected

Dialog level 00.06.30D

Reconnected in file OS 06jul00 15:02:19

SYSTEM:OS - DIALOG OneSearch

File 652:US Patents Fulltext 1971-1979

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Due to recent processing problems, the SORT command is not working.

File 653:US Pat.Fulltext 1980-1989

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\*File 653: Reassignment data current through 12/06/1999 recordings.  
Due to recent processing problems, the SORT command is not working.

File 654:US Pat.Full. 1990-2000/Jul 04

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Set Items Description

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?ds

Set	Items	Description
S1	169	(SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PYLORIS OR PYLOR)/TI
S2	110957	ATTENUAT? OR MUTANT? OR AVIRULENT? OR AROA OR GUAA OR GUA - OR RECA
S3	57	S1 AND S2
S4	23	S3 AND (HELICOBACTER? OR PYLROI OR PYLOR OR PYLORIDIS OR PYLORIS OR PYLORI)
S5	15	S4 AND (SALMONELLA? OR TYPHI OR TYPHIMURIUM?)
?s s5 and (therapeu? or therapy? or prevent? or vaccin? or immuniz?)	15	S5
	84863	THERAPEU?
	53507	THERAPY?
	1317854	PREVENT?
	13409	VACCIN?
	14540	IMMUNIZ?
S6	15	S5 AND (THERAPEU? OR THERAPY? OR PREVENT? OR VACCIN? OR IMMUNIZ?)

?t s6/kwic/all

6/KWIC/1 (Item 1 from file: 654)

DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

PURIFIED VACUOLATING TOXIN FROM **HELICOBACTER PYLORI** AND METHODS TO USE SAME

#### OTHER REFERENCES

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- ...

#### ABSTRACT

This invention relates to a purified **Helicobacter pylori** vacuolating toxin and methods to use this toxin to produce protective antibodies against H. **pylori** infection. Antiserum to this antigen can be used to detect the toxin. Methods to detect...

... a patient to develop peptic ulcer disease, gastric carcinoma, or other clinical consequences of H. **pylori** infection.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1A-B show column chromatography of H. **pylori** vacuolating toxin.

Column eluates were monitored for absorbance at 280 nm (solid lines), and salt...

...of NaCl.

FIG. 2 shows sodium dodecyl sulfate-polyacrylamide gel electrophoresis (12% acrylamide) of *H. pylori* toxin (CB antigen) under denaturing, reducing conditions. Lanes are: a, proteins precipitated from a broth culture supernatant of *H. pylori* 60190 by a 50% saturated solution of ammonium sulfate; b, toxin partially purified by hydrophobic...

... 000 protein band by immune rabbit serum. Proteins precipitated from the broth culture of *H. pylori* 60190 by a 50% saturated solution of ammonium sulfate were electrophoresed on a 10% acrylamide...

... a, preimmune serum. Lane b, antiserum produced against the purified denatured Mr=87,000 *H. pylori* protein subunit. The antiserum recognized only the Mr=87,000 band.

FIG. 4 shows neutralization of *H. pylori* vacuolating toxin activity by antiserum raised against the purified denatured Mr=87,000 protein subunit. Preimmune serum and antiserum raised against the purified Mr=87,000 *H. pylori* protein subunit were tested for toxin- ...neutralizing activity. The neutral red uptake induced by crude concentrated broth culture supernatant from *H. pylori* 60190 is indicated by the dashed line. At a dilution of 1:64, the antiserum...

...failed to neutralize toxin activity.

FIG. 5 shows detection of the vacuolating toxin in *H. pylori* supernatants. Concentrated culture supernatants from 8 tox sup + *H. pylori* strains and 8 tox sup - strains were diluted 1:100 in carbonate buffer and tested...

...046  $\pm$  0.01,  $p < 0.0001$ ).

FIG. 6 shows serologic recognition of the purified *H. pylori* toxin (CB antigen) by human sera. Sera from twenty *H. pylori* -infected persons and 20 uninfected persons were diluted 1:100 and tested in an ELISA for IgG reactivity with the purified CB antigen (15 ng/microtiter well). Sera from *H. pylori* -infected persons recognized the purified toxin significantly better than sera from uninfected persons (mean optical...

#### BACKGROUND OF THE INVENTION

##### 1. Field of the Invention

This invention relates to a purified *Helicobacter pylori* vacuolating toxin, methods to use the purified toxin in diagnostic testing for the predisposition to peptic ulceration and gastric malignancy, and methods to use the purified toxin as a **vaccine** for providing immunologic protection against *H. pylori* infection.

##### 2. Brief Description of the Background Art

*Helicobacter pylori* is a curved Gram-negative bacterium that is commonly present in the human stomach; once...

... 1990) J. Infect. Dis. 161:626-633). Multiple lines of evidence now indicate that *H. pylori* infect

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Set	Items	Description
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?s	(salmonella? or helicobacter? or pylori or pyloridis or pyloris or pylor)/ti	
	79	SALMONELLA?/TI
	68	HELICOBACTER?/TI
	69	PYLORI/TI
	0	PYLORIDIS/TI
	0	PYLORIS/TI
	0	PYLOR/TI
S1	169	(SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PYLORIS OR PYLOR)/TI
?s	attenuat? or mutant? or avirulent? or aroA or guaa or gua or reca	
	93604	ATTENUAT?
	18589	MUTANT?
	576	AVIRULENT?
	297	ARO A
	17	GUAA
	815	GUA
	1021	RECA
S2	110957	ATTENUAT? OR MUTANT? OR AVIRULENT? OR ARO A OR GUAA OR GUA OR RECA
?ds		
Set	Items	Description
S1	169	(SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PYLORIS OR PYLOR)/TI
S2	110957	ATTENUAT? OR MUTANT? OR AVIRULENT? OR ARO A OR GUAA OR GUA OR RECA
?s	s1 and s2	
	169	S1
	110957	S2
S3	57	S1 AND S2
?s	s3 and (helicobacter? or pylroi or pylor or pyloridis or pyloris or pylori)	
	57	S3
	557	HELICOBACTER?
	0	PYLROI
	4	PYLOR
	51	PYLORIDIS
	16	PYLORIS
	615	PYLORI
S4	23	S3 AND (HELICOBACTER? OR PYLROI OR PYLOR OR PYLORIDIS OR PYLORIS OR PYLORI)
?s	s4 and (salmonella? or typhi or typhimurium?)	
	23	S4
	8405	SALMONELLA?
	1038	TYPHI
	3730	TYPHIMURIUM?
S5	15	S4 AND (SALMONELLA? OR TYPHI OR TYPHIMURIUM?)
?t	s5/3/all	

5/3/1 (Item 1 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
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03113767

Utility

PURIFIED VACUOLATING TOXIN FROM **HELICOBACTER PYLORI** AND METHODS TO USE  
SAME

PATENT NO.: 6,054,132

ISSUED: April 25, 2000 (20000425)

INVENTOR(s): Cover, Timothy L., Nashville, TN (Tennessee), US (United  
States of America)  
Blaser, Martin J., Nashville, TN (Tennessee), US (United  
States of America)

ASSIGNEE(s): Vanderbilt University, (A U.S. Company or Corporation),  
Nashville, TN (Tennessee), US (United States of America)  
[Assignee Code(s): 88418]

APPL. NO.: 8-284,747

FILED: August 02, 1994 (19940802)

This application is a continuation of .

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Due to recent processing problems, the SORT command is not working.

Set Items Description

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?ds

Set Items Description

S1 169 (SALMONELLA? OR HELICOBACTER? OR PYLORI OR PYLORIDIS OR PY-  
LORIS OR PYLOR)/TI

S2 110957 ATTENUAT? OR MUTANT? OR AVIRULENT? OR AROA OR GUAA OR GUA -  
OR RECA

S3 57 S1 AND S2

S4 23 S3 AND (HELICOBACTER? OR PYLROI OR PYLOR OR PYLORIDIS OR P-  
YLORIS OR PYLORI)

S5 15 S4 AND (SALMONELLA? OR TYPHI OR TYPHIMURIUM?)

?s s5 and (therapeu? or therapy? or prevent? or vaccin? or immuniz?)

15 S5

84863 THERAPEU?

53507 THERAPY?

1317854 PREVENT?

13409 VACCIN?

14540 IMMUNIZ?

S6 15 S5 AND (THERAPEU? OR THERAPY? OR PREVENT? OR VACCIN? OR  
IMMUNIZ?)

?t s6/kwic/all

**6/KWIC/1 (Item 1 from file: 654)**

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PURIFIED VACUOLATING TOXIN FROM **HELICOBACTER PYLORI** AND METHODS TO USE  
SAME

#### OTHER REFERENCES

...al, Infection & Immun., Mar. 1990, vol. 58, No

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File 349:PCT Fulltext 1983-2000/UB=, UT=20000525

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File 348:European Patents 1978-2000/Jun W03

(c) 2000 European Patent Office

\*File 348: \*\* NEW FEATURE \*\* English language translations of French and German abstracts now searchable. See HELP NEWS 348 for info.

File 34:SciSearch(R) Cited Ref Sci 1990-2000/Jul W1

(c) 2000 Inst for Sci Info

File 440:Current Contents Search(R) 1990-2000/Jul W3

(c) 2000 Inst for Sci Info

Set	Items	Description
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Executing TD059

>>>SET HILIGHT: use ON, OFF, or 1-5 characters

1365	AROA
------	------

34853	HELICOB?
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36246	PYLORI
-------	--------

77	PYLOR
----	-------

894	PYLORIDIS
-----	-----------

42	PYLORIS
----	---------

44	HPYLORI
----	---------

S1	11	AROA (100N) (HELICOB? OR PYLORI OR PYLOR OR PYLORIDIS OR PYLORIS OR HPYLORI)
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?rd

>>>Duplicate detection is not supported for File 654.

>>>Duplicate detection is not supported for File 349.

>>>Duplicate detection is not supported for File 348.

>>>Records from unsupported files will be retained in the RD set.

>>>Record 440:11686179 ignored; incomplete bibliographic data, not retained in RD set

...completed examining records

S2	10	RD (unique items)
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?t s2/6,kwic/all

2/6,KWIC/1 (Item 1 from file: 654)

DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

03050937

METHOD OF MAKING NON-PYROGENIC LIPOPOLYSACCHARIDE OR A

FULL TEXT: 2156 lines

...can be employed in the present invention include P. aeruginosa (ATCC No. 23267 .

The particular **Helicobacter** strain employed is not critical to the present invention. Examples of **Helicobacter** strains which can be employed in the present invention include H. **pylori** (ATCC No. 43504), H. **mustelae** (ATCC No. 43772).

The particular **Salmonella** ... 6994). S. **typhi** aroC, aroD (Hone et al, Vacc., 9:810-816 (1991)), S. **typhimurium** **aroA** mutant (Mastroeni et al, Micro. Pathol., 13:477-491 (1992)).

The particular **Vibrio** strain employed...

2/6,KWIC/2 (Item 2 from file: 654)

DIALOG(R)File 654:(c) format only 2000 The Dialog Corp. All rts. reserv.

02919058

METHOD FOR INTRODUCING AND EXPRESSING GENES IN ANIMAL CELLS AND LIVE  
INVASIVE BACTERIAL VECTORS FOR USE IN THE SAME

FULL TEXT: 1513 lines

/9/8 (Item 1 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci

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05290777 Genuine Article#: VN238 Number of References: 49

**Title: CLONING, SEQUENCING, EXPRESSION, PURIFICATION AND PRELIMINARY CHARACTERIZATION OF A TYPE-II DEHYDROQUINASE FROM HELICOBACTER-PYLORI**

Author(s): BOTTOMLEY JR; CLAYTON CL; CHALK PA; KLEANTHOUS C

Corporate Source: UNIV E ANGLIA, SCH BIOL SCI/NORWICH NR4

7TJ/NORFOLK/ENGLAND/; UNIV E ANGLIA, SCH BIOL SCI/NORWICH NR4

7TJ/NORFOLK/ENGLAND/; GLAXO WELLCOME RES & DEV LTD, MED RES

CTR/STEVENAGE SG1 2NY/HERTS/ENGLAND/

Journal: BIOCHEMICAL JOURNAL, 1996, V319, OCT (OCT 15), P559-565

ISSN: 0264-6021

Language: ENGLISH Document Type: ARTICLE

Geographic Location: ENGLAND

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY

**Abstract:** A heat-stable dehydroquinase was purified to near homogeneity from a plate-grown suspension of the Gram-negative stomach pathogen *Helicobacter pylori*, and shown from both its subunit and native molecular masses to be a member of the type II family of dehydroquinases. This was confirmed by N-terminal amino acid sequence data. The gene encoding this activity was isolated following initial identification, by random sequencing of the *H. pylori* genome, of a 96 bp fragment, the translated sequence of which showed strong identity to a C-terminal region of other type II enzymes. Southern blot analysis of a cosmid library identified several potential clones, one of which complemented an *Escherichia coli* *aroD* point mutant strain deficient in host dehydroquinase. The gene encoding the *H. pylori* type II dehydroquinase (designated *aroQ*) was sequenced. The translated sequence was identical to the N-terminal sequence obtained directly from the purified protein, and showed strong identity to other members of the type II family of dehydroquinases. The enzyme was readily expressed in *E. coli* from a plasmid construct from which several milligrams of protein could be isolated, and the molecular mass of the protein was confirmed by electrospray MS. The *aroQ* gene in *H. pylori* may function in the central biosynthetic shikimate pathway of this bacterium, thus opening the way for the construction of attenuated strains as potential vaccines as well as offering a new target for selective enzyme inhibition.

Identifiers--KeyWords Plus: AMINO-ACID BIOSYNTHESIS; ESCHERICHIA-COLI; ASPERGILLUS-NIDULANS; SHIKIMATE PATHWAY; SALMONELLA-TYPHI; ACTIVE-SITE; CAMPYLOBACTER-PYLORI; NUCLEOTIDE-SEQUENCE; NEUROSPORA-CRASSA; MOLECULAR-CLONING

Research Fronts: 94-1492 001 (**HELICOBACTER -PYLORI** INFECTION; IMPLICATIONS FOR ULCER THERAPY; ACID-PEPTIC DISEASE)

94-6345 001 (ESCHERICHIA-COLI RNA-POLYMERASE; LACUV5 PROMOTER; TRANSCRIPTION INITIATION; EXPRESSION ANALYSIS)

94-6609 001 (LIVE ATTENUATED **AROA** SALMONELLA VACCINE; INVASION OF EPITHELIAL-CELLS; VIRULENCE PHENOTYPE; STARVATION SURVIVAL GENES; DEFINED OMPR MUTANTS)

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Oral immunization of mice with live attenuated *S. typhimurium*  
expressing *H. pylori* urease

Fulginiti, J.; Zhu, D.; Schmidt, S.; Weidenborner, P.

CONFERENCE: Molecular approaches to the control of infectious diseases-  
Meeting

ABSTRACTS OF PAPERS PRESENTED AT THE MEETING ON MOLECULAR APPROACHES TO  
THE CONTROL OF INFECTIOUS DISEASES, 1995 P: 27

Cold Spring Harbor Laboratory, 1995

LANGUAGE: English DOCUMENT TYPE: Conference Abstracts and program

CONFERENCE SPONSOR: Cold Spring Harbor Laboratory

CONFERENCE LOCATION: Cold Spring Harbor, NY

CONFERENCE DATE: Sep 1995 (199509) (199509)

BRITISH LIBRARY ITEM LOCATION: 0566.578732

DESCRIPTORS: molecular approaches; infectious diseases; CSH